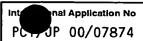


INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 00-049-PCT		f Transmittal of International Search Report 20) as well as, where applicable, item 5 below.
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)
PCT/JP 00/07874	09/11/2000	09/11/1999
Applicant		
KAO CORPORATION et al.		
This International Search Report has been according to Article 18. A copy is being tra	n prepared by this International Searching Auth	nority and is transmitted to the applicant
This International Search Report consists It is also accompanied by	of a total of sheets. a copy of each prior art document cited in this	report.
Basis of the report		
	international search was carried out on the bas ess otherwise indicated under this item.	sis of the international application in the
the international search w Authority (Rule 23.1(b)).	as carried out on the basis of a translation of the	ne international application furnished to this
was carried out on the basis of the		ternational application, the international search
	rnational application in computer readable forn	1.
	this Authority in written form.	
furnished subsequently to	this Authority in computer readble form.	
	sequently furnished written sequence listing de s filed has been furnished.	pes not go beyond the disclosure in the
the statement that the info	ormation recorded in computer readable form is	sidentical to the written sequence listing has been
2. Certain claims were fou	nd unsearchable (See Box I).	
3. Unity of invention is lac	king (see Box II).	
4. With regard to the title,		
the text is approved as su	bmitted by the applicant.	
the text has been establis	hed by this Authority to read as follows:	
	bmitted by the applicant. hed, according to Rule 38.2(b), by this Authorit date of mailing of this international search rep	
6. The figure of the drawings to be publ	•	
as suggested by the appli	_	None of the figures.
because the applicant fail	ed to suggest a figure.	
because this figure better	characterizes the invention.	





A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C01B39/02 C01B39/14 C11D3/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 C01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

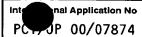
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, INSPEC, COMPENDEX, EPO-Internal

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	EP 0 593 014 A (KAO CORP) 20 April 1994 (1994-04-20) claims 1,10 page 13, line 12 - line 23	1,2,9, 11,12,14
Y	page 9, line 19 - line 26	8
X	EP 0 184 244 A (SOLVAY) 11 June 1986 (1986-06-11) claims 1,6,9,10 page 4, line 1 - line 18 page 8, line 6 -page 9, line 2	3,5-7, 11,12,14
Y	figure 1 -/	8

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
 Special categories of cited documents: 'A' document defining the general state of the art which is not considered to be of particular relevance 'E' earlier document but published on or after the international filling date 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) 'O' document referring to an oral disclosure, use, exhibition or other means 'P' document published prior to the international filling date but later than the priority date claimed 	 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
14 February 2001	21/02/2001
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Rigondaud, B





		PC+70P 00/0/8/4
C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	EP 0 288 293 A (EXXON CHEMICAL PATENTS INC) 26 October 1988 (1988-10-26) claims 1,3,8,9 page 6, line 22 - line 26 page 7, line 6 - line 12	1,9,12
Α		8
X	GB 1 297 140 A (THE BRITISH PETROLEUM COMPANY LIMITED) 22 November 1972 (1972-11-22) the whole document	1
Α	the whole document	2
X	US 4 385 042 A (YAN TSOUNG Y ET AL) 24 May 1983 (1983-05-24) claim 1 column 17, line 17 -column 18, line 38 figure 4	3,4
X	GB 2 252 305 A (FORET SA) 5 August 1992 (1992-08-05) the whole document	3,12,14
X	FR 2 552 070 A (RHONE POULENC CHIM BASE) 22 March 1985 (1985-03-22) claims 1,8-12 page 8, line 15 - line 25 tables 1A,1B example 4	3,10-12, 14
X	US 4 102 977 A (IMAFUKU SHIGEHISA ET AL) 25 July 1978 (1978-07-25) abstract column 3, line 21 - line 59 column 11, line 6 -column 12, line 63	13

INTERNATIONAL SEARCH REPORT Information on patent family members

		on patent family men	inder's	P	C., JP	00/07874
Patent document cited in search report		Publication date		itent family nember(s)		Publication date
EP 0593014	A	20-04-1994		69303572 69303572 49297 2633182 6179899 45224 5578561	T A B A A	14-08-1996 05-12-1996 25-04-1997 23-07-1997 28-06-1994 16-01-1998 26-11-1996
EP 0184244	Α	11-06-1986	FR AT DE ES ES	2573412 51603 3576946 549081 8704854	T D D	23-05-1986 15-04-1990 10-05-1990 16-04-1987 01-07-1987
EP 0288293	Α	26-10-1988	AT CA DE DE ES JP JP US US	79602 1317271 3873810 3873810 2052713 1045713 2637765 4994249 5242875	A A T T A B A	15-09-1992 04-05-1993 24-09-1992 21-01-1993 16-07-1994 20-02-1989 06-08-1997 19-02-1991 07-09-1993
GB 1297140	Α	22-11-1972	NONE			·
US 4385042	A	24-05-1983	US AU AU AU CA DE GB US	4303494 581008 579873 546061 6104880 1146919 3029787 2057907 4383094	B B B A A A A,B	01-12-1981 09-02-1989 15-12-1988 15-08-1985 12-02-1981 24-05-1983 26-02-1981 08-04-1981 10-05-1983
GB 2252305	Α	05-08-1992	NONE			
FR 2552070	А	22-03-1985	AT BR CA DE EP ES KR US	39471 8404722 1244813 3475774 0149929 536089 8602537 8904801 4661334	A A A D A A D A B	15-01-1989 13-08-1985 15-11-1988 02-02-1989 31-07-1985 01-12-1985 16-03-1986 27-11-1989 28-04-1987
US 4102977	A	25-07-1978	JP JP JP JP JP JP JP	1094530 53047408 55018479 1161191 52062315 57014798 1218895 52065503 58051992 1087152	B B C B B C B B B B B B B B B B B B B B	27-04-1982 27-04-1978 19-05-1980 10-08-1983 23-05-1977 26-03-1982 26-07-1984 31-05-1977 19-11-1983 07-10-1980

INTERNATIONAL SEARCH REPORT Infor. on patent family members



Patent document cited in search report	Publication date		atent family member(s)	Publication date
US 4102977 A		DE	2652409 A	26-05-1977
		DE	2660682 C	26-05-1988
		DE	2660683 C	26-05-1988
		FR	2332321 A	17-06-1977
		GB	1571004 A	09-07-1980
		GB	1571003 A	09-07-1980
		NL	7612844 A,B,	23-05-1977
		US	4219535 A´´	26-08-1980
		US	4238346 A	09-12-1980

THE FOLLOWING IS THE AMENDMENTS TO THE CLAIMS OF THE INTERNATIONAL APPLICATION UNDER PCT ARTICLE 19:

AMENDED SHEETS (Pages 55, 56 & 57).

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CLAIMS

- 1. A process for preparing fine zeolite particles comprising reacting a silica source with an aluminum source in the presence of an alkaline earth metal-containing compound.
- 2. The process according to claim 1, wherein the alkaline earth metal is Ca and/or Mg, and wherein the alkaline earth metal-containing compound is used in an amount such that an MeO/Al₂O₃ molar ratio is 0.005 to 0.1, wherein Me is Ca and/or Mg.
- 3. A process for preparing fine zeolite particles comprising feeding for reaction an aluminum source and/or a silica source into a circulating line connected to a reaction tank.
- 4. The process according to claim 3, wherein the aluminum source and/or the silica source is fed into the circulating line connecting between an outlet of the reaction tank and an inlet of a mixer.
- 5. The process according to claim 3 or 4, wherein the aluminum source is supplied to the reaction tank and circulated in the circulating line, and wherein the silica source is fed into the circulating line.
- 6. The process according to claim 3 or 4, wherein the silica source is supplied to the reaction tank and circulated in the circulating line, and wherein

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the aluminum source is fed into the circulating line.

- 7. The process according to any one of claims 3 to 6, wherein the aluminum source and the silica source are mixed in the circulating line at a mixing ratio of 0.1 to 3, as expressed by an SiO₂/Al₂O₃ molar ratio.
- 8. The process according to claim 1 or 2, wherein the aluminum source and/or the silica source are fed for reaction into the circulating line connected to the reaction tank.
- 9. The process according to any one of claims 1 to 8, wherein the fine zeolite particles have the general formula in anhydride form:

$$xM_2O \bullet ySiO_2 \bullet Al_2O_3 \bullet zMeO$$
,

- wherein M is an alkali metal; Me is an alkaline earth metal; x is a number of 0.2 to 2; y is a number of 0.5 to 6; and z is a number of 0.005 to 0.1.
 - 10. The process according to any one of claims 1 to 9, wherein the fine zeolite particles have an average primary particle size of 1.5 µm or less.
 - 11. The process according to any one of claims 1 to 10, wherein the fine zeolite particles have a cationic exchange speed of 150 mg CaCO₃/g or more.
- 12. Fine zeolite particles obtainable by the process according to the process of any one of claims 1 to 11.

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13. Fine zeolite particles satisfying the relationships:

$$0.6 \le X \le 1.5$$
,

$$20X/3 - 2.4 \le Y \le 15$$
,

with proviso that $X \leq Y$,

wherein an average primary particle size is X μm , and an average aggregate particle size is Y μm .

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14. A detergent composition comprising the fine zeolite particles of claim 1210 or 13.